

LAPOTYSHKIN, N.M., kand.tekhn.nauk; MIRONOV, L.V., kand.tekhn.nauk;  
KOROBOVA, N.A., inzh.; BARANOVA, N.A., inzh.; BELYAKOV, A.I., inzh.

Structure of cold-rolled transformer steel. Metalloved. i term.  
(MIRA 16:1)  
obr. met. no.12:26-29 D '62.

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy  
metallurgii, Ural'skiy nauchno-issledovatel'skiy institut chernykh  
metallov i Novosibirskiy metallurgicheskiy zavod.  
(Steel--Magnetic properties)

S/133/62/000/001/002/010  
A054/A127

AUTHORS:

Lapotyshkin, N. M., Boychenko, M. S., Candidates of Technical Sciences, Leytes, A. V., Akimova, Ye. I., Slivchanskaya, V. V., Engineers

TITLE:

Special features of crystallization in continuous casting

PERIODICAL: Stal<sup>22</sup>, no. 1, 1962, 30 - 33

TEXT: There is no definite opinion concerning the effect of the crystallization rate on the grain structure and chemical composition of the castings. To solve this problem, tests were carried out at the TsNIICHM and a new method was applied to determine the crystallization rate, which is based on the distance between the dendrite axes: when the solidification rate is increased, the interaxial distance between secondary dendrites decreases. The tests were carried out with carbon steel and transformer steel. To obtain a clear picture of the dendritic structure, the carbon steels were water-hardened at 950 - 1,050°C and annealed (in water) at 650°C. The crystallization rate at various depths was also checked by introducing the radioactive isotope of sulfur ( $S^{35}$ ), for "45" and Cr .3 (St.3) steels, poured at a 0.7 m/min rate in crystallizers, 200 x 200 mm

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Special features of...

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and 175 x 420 mm size. The St.3 steel was partly poured in a stationary 175 x 420 mm crystallizer and partly by bottom pouring, into conventional molds (180 x 560 and 300 x 300 mm in size). The metal temperature prior to pouring was 1,560 - 1,570°C, the pouring rate in the continuous equipment: 0.7 m/min and in the standard molds: 0.4 - 0.6 m/min. The macrostructural tests showed that the zone of acicular dendrites was about twice that of the ingots obtained in the standard mold. The density of the dendrite zone in continuous casting was also higher than in the standard ones. By measuring the interaxial distance between dendrites it was found that the solidification rate in continuous castings was about 30% higher than in the standard molds. The difference was most striking in a 10 - 50 mm thick layer under the surface of the casting. The surface-to-volume ratio also affects the solidification rate: the 300 x 300 mm ingots solidify slower than the 180 x 560 mm ingots. The interaxial distance of secondary dendrites in carbon steel and transformer steel ingots first increased steadily, upon approximating the axial zone of the ingot, then decreased slightly due to the change in the ratio of the solidifying surface to the volume of the still liquid metal. Other factors of continuous casting (the carbon content of the steel and its temperature in 200 x 200 mm ingots, the rate of pouring and the intensity of second-

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Special features of...

ary cooling) were also studied. In these tests, 4 heats of "45" steel and Y 7 (U7) steel were investigated. The increase in temperature during the pouring of U7 steel slightly reduced the crystallization rate. An increase in the pouring rate (from 0.5 to 0.7 m/min) decreased the solidification rate by about 0.3 cm/min. As to the intensity of secondary cooling, it was established that if 2 l/sec cooling water (0.5 l per 1 kg steel) were consumed, the solidification rate somewhat increased, while upon raising the water consumption to 5 l/sec, this had no effect on the average solidification rate. The relation between the crystallization rate in the cross section of the ingot, the structure and the distribution of non-metallic inclusions was studied in 200 x 200 mm continuous castings. The distribution of inclusions depended in the first place on the arrangement of structural zones. The smallest amount of inclusions was found in the fine-grained zone of the skin, while the amount of inclusions increased in the zone of acicular grains and still more in the transient zone between acicular and spheroidal grains. Dendritic liquation was studied in continuous and standard castings of transformer steel with 4.2 - 4.4% Si content, by comparing the microhardness of the dendrite axes and of the interaxial zones. Greater hardness was observed for the interaxial zones than for the axial parts. The differences in  $\Delta H_B$  indicated the degree of dendritic liquation, which was higher for the standard castings than

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AKIMOVA, Ye.I.; LAPOTYSHKIN, N.M.; LEYTES, A.V.

Determining the crystallization front by the distance between dendrite  
axes. Sbor. trud. TSNIIICHM no.32:72-74 '63. (MIRA 16:12)

MANOKHIN, A.I.; LAPOTYSHKIN, N.M.

Microheterogeneity and the quality of continuous ingots. Stal'  
25 no.10:894-897 O '65. (MIRA 18:11)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy  
metallurgii imeni I.P. Bardina.

LAPOTYSNKOVA, N. P.

LAPOTYSNKOVA, N. P. -- "Investigation of Anion Exchange Under Dynamic Conditions With an Organic Absorption Apparatus." Sub 5 Mar 52, All-Union Order of Labor Red Banner Heat Engineering Sci Res Inst imeni F. S. Dzerzhinskii. (Dissertation for the Degree of Candidate in Technical Sciences).

SO: Vechernaya Moskva, January-December 1952

AUTHOR: Lapotyshkina N.P., Candidate of Technical Sciences.

TITLE: The scheme of successive H-Na cation treatment - A  
method of producing chemically purified water of low  
alkalinity. (Skema posledovatel'nogo H-Na kationir-  
ovaniya - metod polucheniya khimicheski ochishchennoy-  
vody so snizhennoy shchelochnost'yu.) <sup>96-7-10/25</sup>

PERIODICAL: "Teploenergetika" (Thermal Power), 1957, Vol.4, No.7,  
pp. 43 - 46 (U.S.S.R.)

ABSTRACT: An important task in water preparation is to  
reduce the alkalinity of the water. Existing systems  
of H-Na treatment differ in this respect. Parallel  
H and Na treatment does not afford the possibility of  
maintaining the alkalinity of the filtrate below  
0.5 mg.equiv/litre with manual control of the relation-  
ship between the H and Na treatment. This procedure  
also requires excessive quantities of sulphuric acid  
for regeneration and it also is necessary to protect  
the drainage system of the H filters from sulphuric  
corrosion.  
Combined H-Na treatment can give a filtrate with a  
mean alkalinity not less than 1.5 - 2 milligram.equiv/l.

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The scheme of successive H-Na cation treatment - A method of producing chemically purified water of low alkalinity. (Cont.)

96-7-10/25

Moreover if the non-carbonate hardness is high there is some risk of deterioration of the softening effect.

The procedure of successive H-Na cation treatment with a reduced quantity of acid for regeneration of the H filters offers the best possibility of reducing the alkalinity of the water during the process of softening. The essentials of this procedure consist in filtering the previously clarified water through an H-cation filter, then decarbonising it and finally treating on Na cation filters. The technology of softening with the use of cationites regenerated with insufficient acid was developed on a laboratory scale by F.G. Prokhorov and N.P. Subbotina (Teploenergetika No. 3, 1955). As a result of such regeneration the H cation filter operates on an alkaline regime and during the whole working cycle produces filtrate of definite alkalinity. The degree of alkalinity can be controlled by varying the quantity of acid used for regeneration.

With the usual cation regeneration conditions when

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The scheme of successive H-Na cation treatment - A method of producing chemically purified water of low alkalinity. (Cont.)

96-7-10/25

regeneration takes place with excess acid the H cation treatment is complete and the cations of all salts dissolved in the water are removed. Therefore, the filtrate has an acidity corresponding to the sum of sulphates and chlorides in the intake water. Decrease in the quantity of acid used in regeneration causes the process to take place differently. In this case, the hydrogen ions are expended in removing only the parts of carbonate hardness, all the remaining cations, equivalent to the quantity of sulphates and chlorides and also to a given remanent alkalinity take no part in the process and pass into the filtrate. Figs. 1 and 2 give graphs of the quality of the filtrate from an H filter working in the alkaline condition depending on the concentration of bicarbonate salts in the initial water. It follows from the test data that strict constancy of alkalinity is not observed throughout the working cycle but that it steadily drops to a minimum value and then increases until the filter is

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The scheme of successive H-Na cation treatment - A method of producing chemically purified water of low alkalinity. (Cont.)

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replaced for regeneration. It is shown that water with lower carbonate content gives a filtrate of more constant alkalinity.

Another special feature of the process is a steady 'running-in' of the H-cation filter to a given alkaline condition. The filter usually has to be run several times with the same quantity of regenerating acid before it finally settles down. Thereafter the filter is less sensitive to variations in the quantity of acid used for regeneration and to the composition of the feed water. The decarbonisation part of the circuit and also the operation of the Na-cation filters are quite normal. A test on H-cation filters run in this way under full scale conditions gave data on the relationship between the absorption capacity and the alkalinity of the initial water and filtrate as is shown in a table.

A circuit is given which produces water of practically zero alkalinity. The first part of the installation consists of H-cation filters working under

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The scheme of successive H-Na cation treatment - A method of producing chemically purified water of low alkalinity. (Cont.)

96-7-10/25

conditions of zero alkalinity which may occasionally give acid filtrate and a buffer cation filter which is used to neutralise acidity and excess alkalinity. The buffer filter may operate on the self-regeneration principle.

When the feed water must have an alkalinity of 0.3 - 0.4 mg.equiv/litre and simultaneously be very soft, use may be made of a system of successive H-Na cation treatment with the early stages branched, the first part of such an installation includes two kinds of filters, the first or main filter is of the H-cation type regenerated with the theoretical quantity of acid. One or two Na cation filters are used to neutralise the acidity in the water produced. These are correction filters and are operated as necessary. Beyond these two sections the water is a mixture of H and Na cation treated water which is of the necessary alkalinity and some hardness which is softened in the Na-cation filters of the latter part of the installation.

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The scheme of successive H-Na cation treatment - A method of producing chemically purified water of low alkalinity. (Cont.)

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If the initial water is of high mineral content and its non-carbonate hardness is above 3 mg.equiv/litre and the alkalinity must be reduced to 0.3 - 0.4 mg.equiv/l two-stage Na-cation treatment is necessary.  
There are 5 figures.

ASSOCIATION: All-Union Thermo-technical Institute. (VTI)  
AVAILABLE:

Card 6/6

AUTHOR: Lapotyshkina, N.P., and Shapkin, I.F. SOV-90-58-10-5/9

TITLE: The Experimental Testing of an Instrument for the Magnetic Processing of Water (Experimental'noye oprobovaniye pribora dlya magnitnoy obrabotki vody)

PERIODICAL: Energeticheskiy byulleten', 1958, Nr 10, pp 14 - 16 (USSR)

ABSTRACT: The authors describe an experiment to determine the efficiency of an instrument (designation SERI) produced by a Belgian firm for the magnetic processing of water to prevent scale formation in heat exchanging devices. The experiment was carried out by the water department of VTI (The All-Union Power Engineering Institute imeni Dzerzhinskii) with two different types of water; water from the Moscow water supply and the more highly mineralized water from the Terny water reservoir (Donbass). There are 3 tables and 1 diagram.

1. Water—Processing    2. Instruments--Performance    3. Instruments  
--Testing equipment    4. Heat exchangers—Scale    5. Magnetic fields  
---Applications

Card 1/1

LAPOTYSHKINA, N.P., kand.tekhn.nauk

Use of nonchemical methods in water conditioning for controlling  
scale formation. Zhur. VKhD 5 no.6:661-664 '60. (MIRA 13:12)  
(Feed-water purification)

IAPOTYSHKINA, N.P., kand.tekhn.nauk

Prevention of scale formation in low-pressure boilers.  
Energetik 8 no.7:34-35 J1 '60. (MIRA 13:8)  
(Boilers--Incrustations)

LAPOTYSHKINA, N.P., kand.tekhn.nauk; SAZONOV, R.P., inzh.

Experience in using magnetic water treatment in a closed heat supply network. Elek.sta. 32 no.6:27-28 Je '61. (MIRA 14:8)  
(Heating from central stations) (Water--Purification)

LAPOTYSHKINA, N.P.

Concerning the magnetic treatment of water. Energetik 11  
no.2:31 F '63. (MIRA 16:3)  
(Feed-water purification)

LAPOTYSHKINA, N.P.

Magnetic treatment of the feedwater of industrial boiler systems.  
Energetik 12 no.6:26 Je '64. (MIR 17:9)

PHASE I BOOK EXPLOITATION

SOV/5139

Abrikosov, S. V., A. P. Alekseyev, N. M. Zotov, G. F. Kudryashov,  
N. I. Lapov, V. P. Lebedev, and Ye. Ye. Chekmenev

Benzoelektricheskiye i dizel'-elektricheskiye agregaty moshchnost'yu  
ot 0.5 do 400 kvt; spravochnik (Gasoline- and Diesel-Engine  
Electric Generating Sets, 0.5 to 400 kw Capacity; Handbook)  
Moscow, Mashgiz, 1960. 543 p. Errata slip inserted. 7,000  
copies printed.

Ed. (Title page): V. P. Lebedev, Engineer; Reviewer: Ye. A.  
Meyerovich, Engineer; Ed. of Publishing House: V. I. Rybakova;  
Tech. Ed.: T. F. Sokolova; Managing Ed. for Information Litera-  
ture: I. M. Monastyrskiy, Engineer.

PURPOSE: This handbook is intended for technical personnel con-  
cerned with the design and operation of electric generating sets.

COVERAGE: The handbook contains technical data on gasoline- and  
Diesel-engine electric generating sets with a capacity of 0.5  
to 400 kw. Prime movers, electric generators, and electrical

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## Gasoline- and Diesel-Engine (Cont.)

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equipment, as well as the materials required for the selection and designing of generating sets are discussed. The handbook also gives information on the basic requirements for the operation of the sets and on the automation of their control. No personalities are mentioned. There are 34 references, all Soviet.

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Technical data	48
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Card 2/6

Lapov, S.P.  
LAPOV, S.P.

Amyloidosis of the larynx and the pharynx. Vest. oto-rin. 19 no.4:  
100-101 Jl-Ag '57. (MIRA 10:11)

1. Iz kafedry bolezney ukha, gorla, nosa (nach. - zasluzhennyy  
deyatel' nauki prof. K.L.Khilov) Vojenno-meditsinskoy akademii.

(AMYLOIDOSIS, case reports

larynx & pharynx)

(LARYNX, dis.

amyloidosis)

(PHARYNX, dis.

same)

LAPOV, S.F.; SOLDATOV, V.S. (g. Arkhangel'sk)

Trepanopuncture of the frontal sinus. Zhur. ush., nos. i gorl.  
bol. 23 no.4:91-92 J1-Ag'63. (MIRA 16:10)  
(FRONTAL SINUS — SURGERY)

KAVETSKAYA, A.G.; LAPOVA, A.L., starshiy inzhener-agrometeorolog;  
SUKNEVA, Ye.V., starshiy inzhener-klimatolog; VLADIMIROVA,  
N.V., inzh.-agrometeorolog; KURIYEV, M.I., inzh.-agrometeorolog;  
TSERTSVADZE, Sh.I.; CHIRAKADZE, G.I., dotsent, starshiy nauchnyy  
sotrudnik; BABAYEV, A.D., otv.red.; USHAKOVA, T.V., red.; VOLKOV,  
N.V., tekhn.red.

[Concise agroclimatic reference book on the Azerbaijan S.S.R.]  
Kratkii agroklimaticheskii spravochnik po Azerbaidzhanskoi SSR.  
Leningrad, Gidrometeor.izd-vo, 1959. 67 p. (MIRA 13:2)

1. Azerbaydzhanskaya S.S.R. Upravleniye gidrometeorologicheskoy  
sluzhby. 2. Zaveduyushchiy otdelom agrometeorologii Tbilisskogo  
Nauchno-issledovatel'skogo gidrometeorologicheskogo instituta  
(for TSertsavadze). 3. Nachal'nik Upravleniya gidrometeorologicheskoy  
sluzhby Azerbaydzhanskoy SSR (for Babayev).  
(Azerbaijan--Crops and climate)

LAPOVENKO, N. A.

PA 20/49T89

USSR/Mining  
Mining Equipment  
Coal

Dec 48

"Standardization of Cars in Coal Mines of the  
Eastern Regions of the USSR," M. G. Kaznachevskiy,  
N. A. Lapovenko, Giprovostokuglemash, 2 pp

"Ugol" No 12 (273)

Mines in eastern regions use various types of cars.  
This adds to production costs and complicates organi-  
zation of mine operation. Suggests standardized cars  
for all mines and recommends certain basic data for  
determining the optimum shape and type of mine car.

20/49T89

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R000928620012-1

LAPOVENKO, N. A.

"The adoption of the belt conveyors in the open coal mines," Mechanization of  
Labor Consuming and Heavy Work, 1951.

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R000928620012-1"

LAPOVENKO, N. A.

4829. USE OF PU-26 TRACK SHIFTING MACHINE IN OPENCAST WORKINGS.  
Lapovenko, N.A. and Vlasov, V. N. (Ugol (Coal), Sept. 1951, 22, 23).  
The machine, for broad gauge tracks, is described and illustrated, and  
some performance figures are given. (L).

LAPOVENKO, N. A.

LAPOVENKO, N. A. -- "Establishment of a Design and the Experimental-Theoretical Investigation of Elements in a Belt Conveyer for Coal Carriers." Sub 2 Oct 52, Moscow Mining Inst imeni I. V. Stalin. (Dissertation for the Degree of Candidate in Technical Sciences).

SO: Vechernaya Moskva, January-December 1952

LAPOVENKO, N. A.

Dumping Appliances

Belt conveyor dumper L0-1. Mekh. trud. rab. 7, no. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

USSR/MINING

Card 1/1

Authors : Lapovenko, N. A., Cand. of Techn. Scs.; and Samoylyuk, N. D., Recipient of Stalin Award.

Title : Bibliography: Valuable guide book on mine transportation

Periodical : Mekh. Trud. Rab. 2, 47, March 1954

Abstract : A critique is presented on the book entitled "Mine Transportation" written by Prof., Member corresp. of the Acad. of Scs. USSR, A. O. Spivakovskiy and published by Ugletekhizdat. The material of the book is thoroughly systematized, arranged in order and clear. The text of the book is aided by many illustrations. Quality of the publication is considered good.

Institute : .....

Submitted : .....

SPIVAKOVSKIY, A.O.; MEL'NIKOV, N.V.; YEVHENVICH, A.V.; TOPCHIYEV, A.V.;  
IAPOVENKO, N.A.; HESPALOV, B.F., otvetstvennyy redaktor;  
KAMASKOVA, T.P., tekhnicheskiy redaktor

[Equipment for mine transportation, an album of designs] Oborudovanie  
rudnichnogo transporta; atlas konstruktsii. Moskva, Ugletekhizdat.  
Pt.2. [Haulage in open-cut mining] Transport na otkrytykh razrabotkakh.  
1956. 167 p.  
(Mine haulage) (MLRA 10:3)

L A P O V E N K O , N . A .

ALATORTSEV, S.A., prof., doktor tekhn.nauk; ANDREYEV, A.V., kand.tekhn.  
nauk; ANCHAROV, I.L., inzh.; BALINSKIY, S.I., inzh.; BELOUSOV,  
V.G., inzh.; VINNITSKIY, K.Ye., kand.tekhn.nauk; VLASOV, V.M.,  
inzh.; VORONTSOV, N.P., kand.tekhn.nauk; GIPSMAN, M.K., inzh.;  
GLUZMAN, I.S., kand.tekhn.nauk; GUR'YEV, S.V., kand.tekhn.nauk  
[deceased]; DEMIN, A.M., kand.tekhn.nauk; YEGURNOV, G.P., kand.  
tekhn.nauk; YEFIMOV, I.P., inzh.; ZHUKOV, L.I., kand.tekhn.  
nauk; ZEL'TSER, N.M., inzh.; KOSACHEV, M.N., kand.tekhn.nauk;  
KOTOV, A.F., inzh.; KUDINOV, G.P., inzh.; LAPOVENKO, N.A., kand.  
tekhn.nauk; MAZUROK, S.F., inzh.; MEL'NIKOV, N.V.; MUDRIK, N.G.,  
inzh.; NIKONOV, G.P., kand.tekhn.nauk; ORLOV, Ye.I., inzh.;  
POTAPOV, M.G., kand.tekhn.nauk; PRISEDSKIY, G.V., inzh.;  
RZHEVSKIY, V.V., prof., doktor tekhn.nauk; RYAKHIN, V.I., kand.  
tekhn.nauk; SIMKIN, B.A., kand.tekhn.nauk; SITNIKOV, I.Ye., inzh.;  
SOROKIN, V.I., inzh.; STASYUK, V.N., kand.tekhn.nauk; STAKHEVICH,  
Ye.B., inzh.; SUSHCHENKO, A.A., inzh.; TYUTIN, I.F., inzh.;  
TYMOVSKIY, L.G., inzh.; FISENKO, G.L., kand.tekhn.nauk; FURMANOV,  
B.M., inzh.; SHATAYEV, M.G., inzh.; SHESSHO, Ye.F., prof., doktor  
tekhn.nauk; TERPIGOREV, A.N., glavnnyy red. [deceased];

(Continued on next card)

ALATORTSEV, S.A.---(continued) Card 2.

KIT, I.K., zamestitel' glavnogo red.; SHESHKO, Ye.F., zamestitel' otv.red.; BUGOSLAVSKIY, Yu.K., red.; BYKHOVSKAYA, S.H., red.; DIONIS'YEV, A.I., kand.tekhn.nauk, red.; KOZIN, Yu.V., red.; SOKOLOVSKIY, M.M., red.; YASTREBOV, A.I., red.; DEMIDYUK, G.P., kand.tekhn.nauk, red.; KRIVSKIY, M.N., kand.tekhn.nauk, red.; LYUBIMOV, B.N., inzh., red.; MOLOKANOV, P.L., inzh., red.; REISH, A.K., inzh., red.; RODIONOV, L.Ye., kand.tekhn.nauk, red.; SLAVUTSKIY, S.O., inzh., red.; TRAKHMAN, A.I., inzh., red.; TRYMOVSKIY, L.G., inzh., red.; VIDELEV, A.S., doktor tekhn.nauk, red.; SHUKHOV, A.N., kand.tekhn.nauk, red.; TER-IZRAEL'YAN, T.G., red. izd-va; PROZOROVSKAYA, V.L., tekhn.red.; KONDRAT'YEVA, M.A., tekhn.red.

(Continued on next card)

ALATORTSEV, S.A.---(continued) Card 3.

[Mining; an encyclopedic dictionary] Gornoe delo; entsiklo-pedicheskii spravochnik. Glav.red.A.M.Tarpigorev. Chleny glav. red.A.I.Baranov i dr. Moskva, Gos.nauchno-tehn.izd-vo lit-ry po gornomu delu. Vol.10. [Mining coal deposits by the open-cut method] Razrabotka ugel'nykh mestorozhdenii otkrytym sposobom. Redkollegia toma; N.V.Mel'nikov i dr. 1960. 625 p.

(MIRA 13:2)

1. Chlen-korrespondent AN SSSR (for Mel'nikov).  
(Coal mines and mining) (Strip mining)

LAPOVITA, Al.

Aspects of reed mechanized exploitation according to the  
probale method. Cel hirtie 12 no.5/6:153-164 My-Je'63.

GENDELEV, S.Sh.; LAPOVOK, B.L.; RUBINSHTEYN, B.Ye.

Nickel ferrite single crystals with a narrow ferromagnetic resonance line. Fiz. tver. tela 5 no.10:3037-3038 O '63. (MIRA 16:11)

L 17123-55 EWT(1)/EWT(m)/EEC(t)/EWP(b)/EWP(t) Feb AEDC(a)/ASD(a)-5/  
AS(mp)-2/AFWL/RAEM(a)/RAEM(j)/ESD(t)/IJP(c) JD  
ACCESSION NR: AP5000649 S/0181/64/006/012/3538/3544

AUTHOR: Rubinshteyn, B. Ye.; Titova, A. G.; Lapovok, B. L.

TITLE: Ferromagnetic resonance in single crystals of yttrium iron-indium garnet

SOURCE: Fizika tverdogo tela, v. 6, no. 12, 1964, 3538-3544

TOPIC TAGS: ferromagnetic resonance, yttrium iron garnet, single crystal, mixed garnet, relaxation effect, anisotropy, line width

ABSTRACT: In view of the fact that relaxation effects, the anisotropy fields, and the g-factor of mixed garnets can be investigated only with single-crystal samples, and earlier investigations were devoted essentially to polycrystalline samples, the authors present results of an experimental investigation of ferromagnetic resonance in single crystal garnets  $Y_3Fe_{5-x}In_xO_2$  with  $0 \leq x \leq 0.48$ . The tests were made in the temperature interval between 77K and the Curie temperature. The single crystals were obtained using yttrium oxide from the same batch to maintain the amount of impurities constant. The samples were in the form of spheres  $\sim 0.5$  mm in diameter, produced

Card 1/2

L 17123-65  
ACCESSION NR: AP5000649

by air blasting and polishing. The ferromagnetic resonance investigations were made at ~ 9100 Mcs in a through-type cavity operating in the TE<sub>015</sub> mode, using a measurement procedure analogous to that described by A. G. Gurevich et al. (PTE No 1, 73, 1963). The temperature dependence of the line width and of the first crystallographic anisotropy constants were obtained for all the investigated samples. The results show that the effective g-factor of the substituted garnet decreases with increasing x, and an explanation is proposed for this effect. "The authors thank A. G. Gurevich for interest in the work and for numerous discussions, C. Sh. Gendelev for fruitful discussions of questions connected with the crystallographic features of garnet structure, and T. N. Bushyuev for help with the numerous and laborious measurements." Orig. art. has: 6 figures and 3 formulas.

ASSOCIATION: None

SUBMITTED: 16May64

SUB CODE: SS, FM  
Card 2/2

NR REF Sov: 002

ENCL: 00

OTHER: 010

L 65253-65 EWT(1)/EWT(2)/EPY(c)/EWP(t)/EWP(b) IJP(c) JD/WH/GG  
ACCESSION NR: AP5014556 UR/0181/65/007/006/1639/1641  
AUTHOR: Rubinshteyn, B. Ye<sup>v</sup>; Titova, A. G.; Lapovok, B. L.  
TITLE: Compensation of magnetic moments of sublattices in yttrium iron-gallium garnet  
SOURCE: Fizika tverdogo tela, v. 7, no. 6, 1965, 1639-1641  
TOPIC TAGS: yttrium, iron, garnet, magnetic moment, ferromagnetic resonance, single crystal  
ABSTRACT: The authors investigated the ferromagnetic resonance in single-crystal garnets  $Y_3Fe_{5-x}Ga_xO_{12}$ , obtained from a melt consisting of the components and of  $Fe_2O$  and  $PbP_2$ . The values of  $x$  in the garnet were 0.3, 0.7, 0.8, 0.95, 1.1, 1.5, 2.2, and 2.4. The samples were spherical of ~ 0.5 mm diameter, and were polished with abrasive. The ferromagnetic resonance was investigated at ~ 9100 Mcs in a through-type TE<sub>010</sub> cavity. The procedure and accuracy of the measurements were described and discussed by the authors earlier (FT, v. 6, 3539, 1964). Connected with the compensation of the moments observed in the compensation of the moments

connected with the compensation of the magnetic moments of the iron sublattices were described observed in the region  $x \approx 1.1$ . The compensation of the magnetic moments, obtained at a definite composition, is preserved over a wide range of temperatures, while the g-factor of the tetrahedral sublattices increases slightly when  $\text{Fe}^{3+}$  ions are replaced by  $\text{Ga}^{3+}$  in the yttrium garnet. The small change in the g-factor is at-

Card 1/2

L 65253-65

ACCESSION NR: AP5014556

tributed to the fact that the dimensions of these two ions are very close. "The  
authors thank A. A. Shvarts for general direction of the work and A. G. Gurevich  
for a discussion of the results. The measurements of the magnetic moment of the  
investigated garnets were made by I. N. Ivanova." Orig. att. has: 2 figures and  
1 formula.

ASSOCIATION: None

SUBMITTED: 05Nov64

NR REF Sov: 001

ENCL: 00

OTHER: 002

SUB CODE: SS, EM

MRR

Card 2/2

LAPOVOK, I. S.

USSR /Chemistry - Alkylation Sep 53

"Cycloalkylation of Aromatic Compounds. VII. Condensation of Cyclohexanol with Chlorobenzene," N.G. Sidorova and I.S. Lapovok, Lab of Org Chem, Central Asiatic State Univ

Zhur Obshch Khim, Vol 23, No 9, pp 1509-1512

It has been shown that the alkylation of aromatic hydrocarbons by cyclic alcohols, in the presence of  $\text{AlCl}_3$ , gives good yields of monoalkylated products. This method was tested on halogenated benzenes, especially chlorobenzene (I). The condensation of

268r29

I with cyclohexanol (II) in the presence of  $\text{AlCl}_3$  was studied, and the conditions which give yields of cyclohexyl chlorobenzene up to 85% of the theoretical were determined. It was shown that condensation conducted under heat results in *n*-cyclohexyl chlorobenzene, whereas at 0°-20°, a mixture of *o*-cyclohexyl chlorobenzene and *p*-cyclohexyl chlorobenzene is obtained, with the latter predominating. The condensation of I with II in the presence of phosphoric acid (III) could not be achieved. III acts as a dehydrating and polymerizing agent.

268r29

LAPOVOK, L. YA

Lapovok, L. Ya and Revyakin, L. P. - "On the features of peripheral circulation in patients suffering from hypertonic condition," In symposium: VIII Sessiya Neyrokhirurg. i sъveta i Leningr. in-ta neyrokhirurgii (Akad. med. nauk SSSR), Moscow, p. 67-69

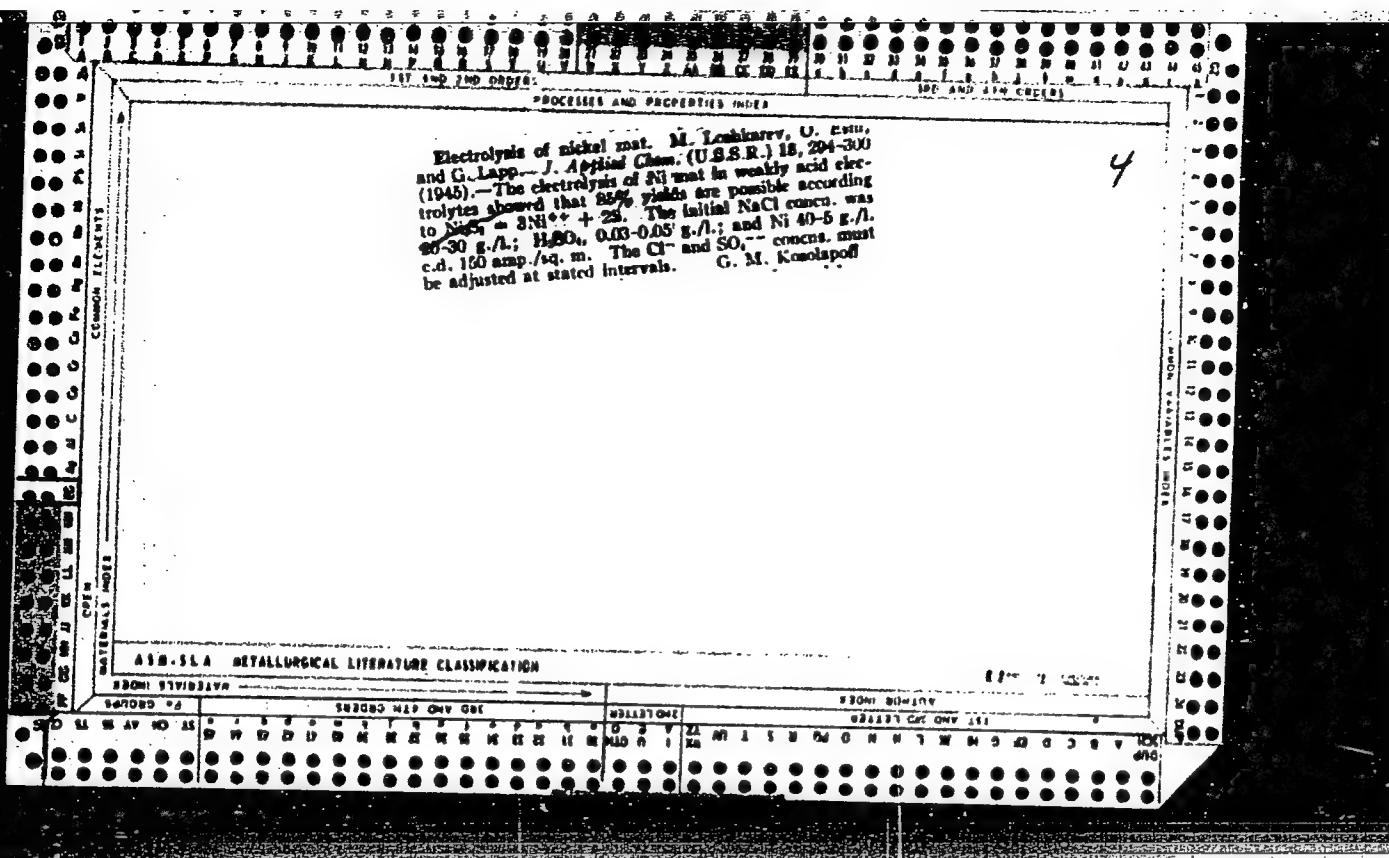
SO: U-3600, 10 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 6, 1949).

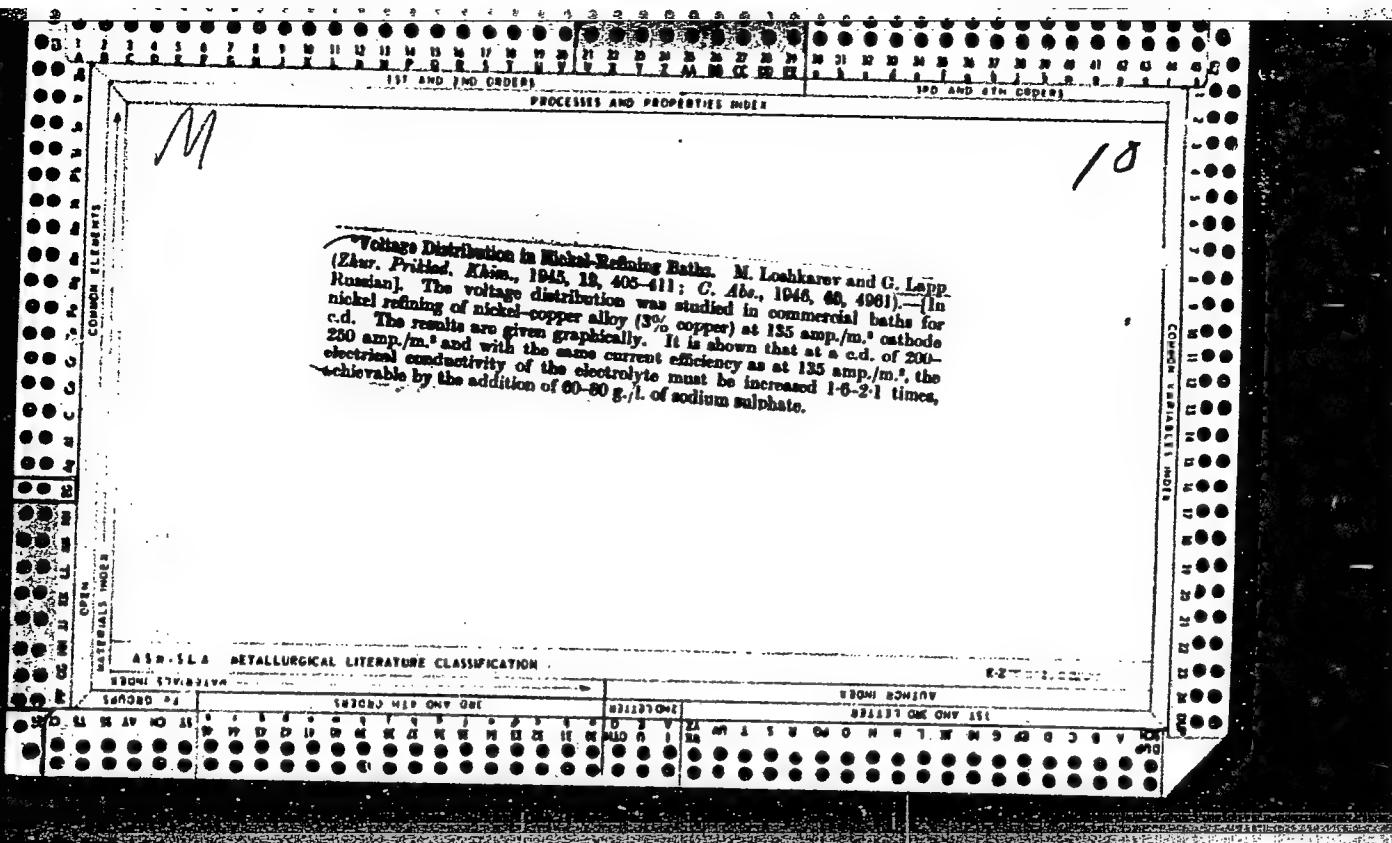
LAPOVOK, Ya. (UAIFA)

Shortwave radio transmitter-receiver. Radio no. 323-25 Mr'64  
(MIRA 17:7)

LAPOVOK, Ya., inzh. (UALFA)

Power supply unit for shortwave radio transmitters. Radio  
no.4:25 Ap '64. (MIRA 17:9)





USSR

✓ Electrolytic oxidation of humic substances in alkali and  
radio solutions. G. B. Lapp and S. I. Kuznetsov. J.  
Appl. Chem. U.S.S.R. 6(10) 220 (1953) (Engl. transla-  
tion). See C.A. 48, 18562.

H.L.H.

Chemical Abst.  
Vol. 48 No. 4  
Feb. 25, 1954  
Electrochemistry

✓ Electrolytic oxidation of humic substances in alkali and soda solutions. G. B. Lapp and S. I. Kuznetsov [S. M. Kirov Ural Polytech. Inst.]. *Zhur. Priklad. Khim.* 26, 1089-91(1953). - Electrolytic oxidation of humic matter which accumulated in alk. liquors of hydrometallurgical operations was studied with respect to optimum conditions. It was shown that the oxidation was more effective in soda solns.; current yields up to 61% were possible at 80° (lower temps. were less effective). In NaOH soln. yields of 7-8% were attainable. The current yield rose with concn. of humic matter; best anode c.d. was 0.6 amp./sq. dm.; at higher c.d. the yield dropped. Most effective oxidation occurred near the beginning of the process, after which the efficiency declined. Smooth metallic electrodes (Ni) were best. Disadvantages of the process were connected with foaming, which was most serious with high c.d.

G. M. Kosolapoff

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R000928620012-1

*[Handwritten signature]*

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R000928620012-1"

instr: 4E4j/4E2c/4E3d

27 Thermometric properties of some metals and alloys of the platinum group. N. I. Kaban and V. I. Maksimova. Zhur. metal. i n. f. 1961, No. 1, p. 101-106. The stability of the thermometric Ir electrodes and Rh and Rh-Pt electrodes was studied. The initial change in  $E$  of Ir heated in *vacuo* was during the first 1-10 hrs at +10.0 m.v. at 1500°, it stabilized after 15 hrs. The loss in wt. was considerably lower when heated in A. 1% Rh and Rh-Pt caused more than 1% Rh weight loss when a direct current was applied exhibiting "extinction" at a drop of 150-200° with a rising current. Rh and alloys containing Rh were more stable than alloys containing Ir. Rh-Ir which heated at 1700-1800° in A. Povn. Al<sub>2</sub>O<sub>3</sub>, NiO<sub>2</sub> and ThO<sub>2</sub> and protective BeO tubes did not affect  $E$  of C. 13, and 30% Rh alloys at 1500°.

4  
3

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*[Handwritten signatures]*

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CIA-RDP86-00513R000928620012-1"

ANAKHOVSKIY, A.P.; GORDOV, A.N.; JAPP, G.B.; LEBEDEVA, Z.S.; MAKSIMOVA,  
V.L.; OMEL'CHENKO, G.F.; PROKOF'YEV, P.N.; ERGARDT, N.N.

Investigating new types of thermocouples for measuring temperatures  
up to 1,800° C. Trudy inst.Kom.stand., mer i izm.prib. no.42:  
29-38 '60.

(Thermocouples)

(MIRA 14:1)

32329

S/081/61/000/024/027/086

B102/B138

*24.5500*

AUTHORS: Adal'ovskiy, A. P., Gordov, A. N., Lapp, G. B.,  
Lebedeva, Z. S., Maksimova, V. L., Omel'chenko, G. F.,  
Prokop'yev, P. N., Ergardt, N. N.

TITLE: Examination of new types of thermocouples for measuring  
temperatures up to 1800°C

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 24, 1961, 173, abstract  
24Ye52 (Tr. in-tov Kom-ta standartov, mer i izmerit.  
priborov pri Sov. Min. SSSR, no. 42(102), 1960, 29-38)

TEXT: The suitability of thermocouples made of Pt-Rh thermoelectrodes  
with varying Rh concentrations (1, 6, 10, 13, 20, 30, 40%) was studied  
for temperature measurements between 1500 and 1700°C. The authors checked  
the homogeneity of the thermoelectrodes and the effect of contact with  
 $ZrO_2$ ,  $ThO_2$ ,  $BeO$  and  $Al_2O_3$  on the thermo-emf of the thermocouples  
examined. These oxides were used as refractories for insulating and

Card 1/2

32595

18.12.00 1530 1418

S/137/61/000/011/009/123  
A060/A101

AUTHORS: Adakhovskiy, A. P., Gordov, A. N., Lapp, G. E., Lebedeva, Z. S., Maksimova, V. L., Omel'chenko, G. F., Prokop'yev, P. N., Ergardt, N. N.

TITLE: Investigation of new types of thermocouples for measuring temperatures up to 1,800°C

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 11, 1961, 12, abstract 11B71 ("Tr. in-tov Kom-ta standartov, mer i izmerit. priborov pri Sov. Min. SSSR", 1960, no. 42 (102), 29 - 38)

TEXT: An investigation was carried out upon thermocouples from alloys of Pt and Rh, containing 1, 6, 10, 13, 20, 30, and 40 % Rh. The influence of the refractory materials used for reinforcing the thermocouples was clarified. The least influence upon the thermoelectric characteristics of Pt-Rh alloys was exerted by oxides of Th, Be, and Al. Zr oxide has a strong influence. As the diameter of thermoelectrodes increases, the influence of the material is reduced. The influence of the refractory ceramic at high temperatures is reduced as the Rh content in the alloy is raised. The greatest stability is demonstrated by

Card 1/2

32595

S/137/61/000/011/009/123

A060/A101

Investigation of new types of thermocouples ...

thermocouples of ΠP 30/6 (PR 30/6). Under repeated measurements of the temperature of liquid steel by means of them, and without renewing the working junction, their characteristic showed almost no change. The thermocouples ΠP 100/20 (PR 100/20) were withdrawn from testing because of their excessive fragility, even though their readings remained practically constant.

G. Glinkov

[Abstracter's note: Complete translation]

Card 2/2

S/194/61/000/011/011/070  
D256/D302

AUTHORS: Adakhovskiy, A.P., Gordon, A.N., Lapp, G.B., Lebedeva, Z.S., Maksimova, V.L., OmeI'chenko, G.F., Prokop'yev, P.N. and Ergardt, N.N.

TITLE: Investigating new types of thermocouples for temperature measurements up to 1800°C

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 11, 1961, 28, abstract 11 A225 (Tr. in-tov Komta standartov, mer i izmerit. priborov pri Sov. Min. SSSR, 1960, no. 42 (102), 29-38)

TEXT: Investigations are described of thermocouples made of platinum-rhodium alloys of various percentage composition of the two elements. Thermoelectrical uniformity of the alloys was determined using a special arrangement consisting of an oven, an interlacing device and a potentiometer. The presented tables include the results of testing and calibration data for thermocouples of the

Card 1/2

Investigating new types of...

S/194/61/000/011/011/070  
D256/D302

following types: ΠΡ 13/1 (PR 13/1), ΠΡ 30/6 (PR 30/6), ΠΡ 30/13 (PR 30/13) and ΠΡ 40/20 (PR 40/20). Thermocouples ΠΡ 10/0 (PR 10/0), ΠΡ 30/6 (PR 30/6) and ΠΡ 100/20 (PR 100/20) were tested for long-time stability of the thermo-emf. Recommendations for industrial use of the thermocouples are given. 5 figures. 4 tables. [Abstracter's note: Complete translation]

Card 2/2

S/263/62/000/003/006/015  
1004/I204

24.5500

AUTHOR: Adakhovskiy, A. P., Gordov, A. N., Lapp, G. B., Lebedeva, Z. S., Maksimova, V. L.  
Omelchenko, G. F., Prokopyev, P. N. and Erhardt, N. N.

TITLE: Investigation of new types of thermocouples for measurement of temperatures up to 1800°C

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk. Izmeritel'naya tekhnika, no. 3, 1962, 38, abstract  
32.3.229. "Tr. in-tov Kom-ta standartov, mer i izmerit. priborov, pri Sov. Min. SSSR",  
1960, no. 42 (102), 29-38

TEXT: The authors studied thermocouples, both electrodes of which were made of platinum-rhodium alloys of varying composition. Sverdlov sovnarkhoz (district economic council) produced platinum-rhodium wires with different rhodium contents, 0.3, 0.5, 0.8 and 1.0 mm in diameter and studied their thermoelectric uniformity. The latter was determined on a semi-automatic industrial set-up consisting of an oven for heating the junction of the investigated wire with a comparison electrode, a rewinding unit and a laboratory potentiometer. The degree of uniformity of the thermoelectric material was determined by the value of the thermoelectric emf created at the junction of the investigated wire with a comparison electrode. The comparison electrode was formed by a piece of wire cut from an end of the investigated bundle. The oven of the set-up was built

Card 1/2

LAPP, G. B.

The Second All-Union Conference on Rhenium, sponsored by the Institute of Metallurgy imeni A. A. Baykov, Academy of Sciences USSR, and the State Institute of Rare Metals, was held in Moscow 19-21 November 1962. A total of 335 representatives from 83 scientific institutions and industrial establishments participated. Among the reports presented were the following: autoclave extraction of Re from Cu concentrates (A. P. Zelikman and A. A. Peredereyev); Re extraction from the gaseous phase (V. P. Savravayev and N. L. Peysakhov); recovery of Re by sorption and ion interchange (V. I. Bibikova, V. V. Il'chenko, K. B. Lebedev, G. Sh. Tyurekhodzhayeva, V. V. Yermilov, Ye. S. Raimbekov, and M. I. Filimonov); production of carbonyl Re (A. A. Ginzburg); electrolytic production of high-purity Re and electroplating with Re (Z. M. Sominskaya and A. A. Nikitina); Re coatings on refractory metals produced by thermal dissociation of Re chlorides (A. N. Zelikman and N. V. Baryshnikov); plastic deformation and thermomechanical treatment of Re (V. I. Karavaytsev and Yu. A. Sokolov); growth of Re single crystals and effect of O<sub>2</sub> on their properties (Ye. M. Savitskiy and G. Ye. Chuprikov); Re-Mo, Re-W, and Re-precious-metal alloys (Ye. M. Savitskiy, M. A. Tylkina, and K. B. Povarova); synthesis of Re nitrides, silicides, phosphides, and selenides (G. V. Samsonov, V. A. Obolonchik, and V. S. Neshpor); weldability of Re-Mo and Re-W alloys (V. V. D'yachenko, B. P. Morozov, and G. N. Klebanov); new fields of application for Re and Re alloys (M. A. Tylkina and Ye. M. Savitskiy); and Re-Mo alloy for thermocouples (S. K. Danishevskiy, Yu. A. Kocherzhinskii, and G. B. Lapp). [WW]

Tsvetnaya metallo, no. 4, Apr 1963, pp 92-93

LAPP, G.B.; POPOVA, D.I.

Calibration of tungsten-rhenium/tungsten-rhenium thermocouples.  
(MIRA 16:12)  
Izm. tekhn. no.10:33-34 O '63.

LAPP, G.B.; POPOVA, D.I.

Some thermometric properties of tungsten-rhenium thermoelectrode  
materials. Izm.tekh. no.11:20-21 N '63. (MIRA 16:12)

L 23618-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) IJP(c) XJW/JD/JG/NLK

ACCESSION NR: AT5002786

S/0000/64/000/000/0218/0220

AUTHOR: Lapp, G. B.; Popova, D. I.

B+1

TITLE: Stability of the thermoelectromotive force of tungsten-rhenium  
thermocouples <sup>27</sup> <sup>27</sup>

SOURCE: Vsesoyuznoye soveshchaniye po probleme reniya. 2d, Moscow, 1962.  
Reniy (Rhenium); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1964, 218-220

TOPIC TAGS: tungsten alloy, rhenium alloy, thermocouple, thermoelectromotive  
force, thermocouple annealing

ABSTRACT: The authors studied the change in the thermo-emf of alloys of tungsten containing 5, 10, and 20% Re (respectively, VR-5, VR-10, and VR-20) by subjecting the specimens to three consecutive annealing treatments (each time under different conditions). Values of the thermo-emf after each treatment are tabulated as a function of the duration of the annealing (5 min. to 25 hrs.). The VR-5/20 thermocouple was calibrated by means of the melting points of pure copper, nickel, palladium, platinum, and rhodium. Comparison of the calibration with that performed earlier by S. K. Danishevskiy shows an insufficient thermoelectric reproducibility of the experimental batches of alloys.

Cord 1/2

L 23618-65

ACCESSION NR: AT5002786

Orig. art. has: 3 tables.

ASSOCIATION: None

SUBMITTED: 05Aug64

ENCLR: 00

SUB CODE: NM, EM

NO REF SOV: 001

OTHERR: 000

Card 2/2

BRAGIN, B.K.; LAPP, G.B.; LEPIN, I.R.

Effect of the annealing on the thermoelectromotive force of  
thermoelectrode platinrhodium. Trudy inst.Kom.stand mer i izm.  
prib. no.71:220-222 '63. (MIRA 17:9)

1. Sverdlovskiy filial Vsesoyuznogo nauchno-issledovatel'skogo  
instituta metrologii im. D.I. Mendeleyeva.

LAPP, G.B.; POPOVA, D.N.

Stability of the thermo-e.m.f. in tungsten-rhenium alloys.  
Nov. nauch.-issl. rab. po metr. VNIIM no.3:20-23 '64  
(NTRA 18:2)

L 32261-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) IJP(c) JD/JB

ACCESSION NR: AT40 5676

S/2680/84/000/022/0143/0158

AUTHOR: Aleksakhin, I. A.; Lepin, I. R.; Lapp, G. B.; Bragin, B. K.

TITLE: Problems involved in the quest for thermoelectrode oxidation-resistant alloys at service temperatures up to 2000 C

SOURCE: Moscow. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut splavov i obrabotki tsvetnykh metallov. Trudy\*, no. 22, 1964. Issledovaniye splavov dlya termopar (Studying alloys for thermocouples), 143-158

TOPIC TAGS: rare earth metal, oxidation, thermoelectromotive force

ABSTRACT: The data dealing with Ir thermocouple containing 40% Rh are scarce. Conversely, there is ample literature both in the Soviet Union and abroad on thermocouples with 60% Rh. The authors discuss foreign research in this field at great length and conclude that Soviet investigations stand in good agreement with foreign findings. However, the amount of Rh additions (40 or 60% Rh) remains a controversial subject. The investigations conducted by the Sverdlovsk branch of the

Card 1/2

L 32261-65

ACCESSION NR: AT4045676

All-Union Scientific Research Institute of Metrology show that after annealing at high temperatures the thermoelectromotive force increases with 60% Rh. The Ir60Rh/Ir thermocouple has a life span of about 100 hrs. at 1800 C. Another Soviet paper suggests the employment of such thermocouple in an oxidizing atmosphere at 2300 C. The authors recommend the employment of an Ir60Rh/Ir couple for a service period of 10 to 20 hours and at 2000 C. They point out such shortcomings as the ready evaporation of the Ir electrode and the non-stable character of the electromotive force.

7

Shortcomings as the ready evaporation of the Ir electrode and the non-stable character of the electromotive force under the effect of oxidation. The possibilities of increasing the life span of an Ir<sub>60</sub>Rh/Ir couple along with the search for more stable alloys should be considered and Ir-Rh, Ir-Pt, Ir-Pd and Ir-Au investigated for that purpose. Furthermore, a beneficial effect may possibly be achieved by the addition of base metals. Orig. art. has: 9 figures and 4 tables.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut splavov i obrabotki tsvernykh metallov, Moscow (State Scientific Research and Design Institute for Alloys and Processing of Nonferrous Metals)

SUBMITTED: 00  
NO REF Sov: 012

ENCL# 00  
OTHER: 028

SUB CODE: MM

AMERICAN LIBRARY

SEARCHED: 028

Card 2/2

L 3804-66 EWT(m)/EWP(t)/EWP(b)/EWA(h)/ETC(m) IJP(c) JD/HW/JG

ACCESSION NR: AP5025581

UR/0115/65/000/009/0019/0021  
536.532.089

AUTHOR: Lapp, G. B.; Popova, D. I.

TITLE: Thermoelectric stability of thermocouples made of refractory metals and alloys

SOURCE: Izmeritel'naya tekhnika, no. 9, 1965, 19-21

TOPIC TAGS: thermocouple, thermoelectromotive force, refractory, metal, tungsten, molybdenum, temperature measurement

ABSTRACT: Comparative tests were made of tungsten, molybdenum, tungsten-rhenium and molybdenum-aluminum wires at the Sverdlovsk Affiliate of the All-Union Scientific Research Institute of Metrology to find the most reliable materials for thermal electrodes and to determine the possible sources of error in temperature measurement. It was found that tungsten and a tungsten alloy with 20% rhenium are the most stable materials with respect to thermoelectromotive force. Following these in decreasing order of stability are tungsten alloys with 10 and 5% rhenium respectively, molybdenum, and molybdenum alloyed with aluminum. It was also found that a tungsten-molybdenum thermocouple is extremely stable.

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Card 1/2

L 3804-66

ACCESSION NR: AP5025581

of thermocouple does not vary more than 50  $\mu$ v ( $\sim 0$  deg) after 25 hours annealing in the 1500-1900°C range. The calibration characteristics of the thermocouples may be stabilized by pre-annealing at higher than operating temperatures. Orig. art. has: 3 tables.

ASSOCIATION: none

SUBMITTED: 00

NO REF SOV: 004

ENCL: 00

SUB CODE: EM, NM

OTHER: 000

QC  
Card 2/2

LAPP. M.A.; SUDOV, B.A.

Prospecting for deep-seated ore bodies and deposits based on  
halos of wide dispersion elements. Sov. geol. 6 no.10:113  
119 O '63. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metodiki i  
tekhniki razvedki.

VOZISOV, A.F.; IAPP, V.N.; DUBROVSKAYA, L.Ya.

Effect of gelatin on a cathodic polarization change in the  
process of copper electrodeposition. Zhur.prikl.khim. 34  
no.8:1814-1819 Ag '61. (MIRA 14:8)

1. Institut Unipromed'.  
(Copper plating) (Gelatin)

LAPPA, M.

PA 23/49T34

USSR/Engineering

Jun 48

Ships, Heating  
Water Heaters

"Effective Utilization of the Thermal System T/E  
V. Molotov," Dr A. Aksel'band, M. Lappa, Chair of  
Steam-Power Plants, Odessa Inst for Maritime Fleet  
Engineers, 3 pp

"Morskoy Flot" No 6

Explains advantages of multistage feed-water heating  
in subject ship, with table, and diagram of pipe  
lines.

23/49T34

AKSEL'BAND, Aba Moshkovich; IAPPA, Mikhail Ivanovich; VINOGRADOVA, N.M.,  
redaktor; SEMEKA, V.A., redaktor; NOSEYEV, A.A., retsenzent;  
VOIKOVA, Ye., tekhnicheskiy redaktor.

[Operation of ships' exhaust-steam turbine equipment] Ekspluatatsiya  
sudovykh turbinnykh ustavovok otrabotavshego para, Moskva, Izd-vo  
"Morskoi transport," 1954. 146 p. (MLRA 8:1)  
(Steam turbines)

LAPPA, M.I.

Subject : USSR/Engineering AID P - 1835  
Card 1/1 Pub. 110-a - 12/16  
Authors : Aksel'band, A. M., Lappa, M. I., and Litvak, V. I.,  
Kands. of Tech. Sci.  
Title : Furnace with a rabble plate for marine fire-tube  
boilers  
Periodical : Teploenergetika, 3, 52-56, Mr 1955  
Abstract : The authors describe an automatic device of their  
own design for feeding a marine steam fire-tube  
boiler using solid fuel. The chains driving the  
fire grater-bars were designed by Eng. Vasil'yev.  
The grates are equipped with a rabble of triangular  
cross section. The authors describe in detail the  
automatic control system regulating the movement of  
the stoker. The results of tests made in 1952 and  
1953 are summarized in a table. Six drawings and  
diagrams.  
Institution: Odessa Institute of Naval Engineers  
Submitted : No date

LUKIN, Guriy Yekovlevich; LAPP, M.I., dotsent, retsentent; OGLOBLIN, G.A.,  
nauchnyy red.; ALEKSANDROV, L.A., red.izd-va; TIKHOMOVA, Ye.A.,  
tekhn.red.

[Steam turbines on modern seagoing vessels; an atlas] Parovye  
turby sovremennoykh morskikh sudov; atlas. Moskva, Izd-vo  
"Morskoi transport," 1960. 64 p. [Description to the atlas]  
\_\_\_\_ Opisanie k atlasu. 94 p. (MIRA 13:7)

1. Spetsial'noye konstruktorskoye byuro Kirovskogo zavoda (for  
Ogloblin).

(Steam turbines)

87963

26.2120

S/114/60/000/007/003/009  
E194/E455

AUTHOR:

Lappa, M.I., Candidate of Technical Sciences

TITLE:

Determination of Turbine-Rotor Deflection on Passing  
Through the First Critical Speed

PERIODICAL: Energomashinostroyeniye, 1960, No.7, pp.9-12

TEXT: In designing turbine rotors, calculations are usually made both of the critical speeds and the strength. However, the amplitude of oscillations as the rotor passes through the critical speed is not calculated, nor is the influence of various factors on the amplitude. This position is clearly unsatisfactory. Experiments were made to determine the influence of the speed of transition through the critical speed on the amplitude of resonance, using a turbo-generator of 3200 kW. The amplitude relative to the stator was measured by inductive pickups in conjunction with an oscillograph. The speed was measured with an inductive pickup, to an accuracy of 1%. The tests showed that the acceleration on passing through the critical speed is (2 to 20)  $1/\text{sec}^2$  for ship's turbines and less in stationary turbines. For such accelerations the shaft deflection during transition is little different from the deflection with steady-state resonance. Not Card 1/6 X

87963

S/114/60/000/007/003/009  
E194/E455

Determination of Turbine-Rotor Deflection on Passing Through  
the First Critical Speed

only is it simpler to make the calculations for the steady state but it is advisable, because a turbine, particularly one of variable speed, may occasionally work for a considerable time near to a critical speed. In deriving the equations for the shaft deflection at the critical speed, it is assumed that the work due to the disturbing force is, over a single cycle, equal to the absolute value of the work of overcoming a resistance which consists of the sum of internal and external resistances. The resistances of the oil films in the plain bearings are classed as external and all the other losses as internal, namely those due to imperfect elasticity of the metal, gland friction with the shaft, friction in the coupling and friction between the rotor and gas. Expressions are then derived for the disturbing force, the internal resistance and the external resistance, and by appropriate combination of these equations, Eq.(6) is obtained for the maximum deflection of the rotor at the first critical speed. In order to use this formula, certain coefficients must

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be determined experimentally, particularly those in the bearing-resistance equations. In order to investigate the transition process and, in particular, to determine some of the necessary coefficients, a rig was set up so that tests could be made with various values of the bearing coefficients. In the rig the number of discs on the rotor could be varied up to 6. The rotor was driven at speeds up to 3700 rpm by a 12 kW d.c. motor. The coupling between the motor and rotor could be made flexible or solid as required. The critical speed of the rotor could be altered both by moving the bearing pedestal and by altering the number of discs. Deflection measurements were made with differential inductive pickups of the transformer type. A phase-shifter was provided to determine the phase displacement between the direction of the disturbing force and that of the oscillations. Before the tests were started, the rotor was dynamically balanced directly in the bearing, the location and value of the balancing load being determined at the critical

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speed from measurements of rotor deflection and phase angle. The balancing was so good that there was hardly any increase of deflection at the critical speed. The oscillograms were taken with steady-state oscillation conditions in the region of the first critical speed and also on passing through the critical speed at various rates of angular acceleration. Measurements were made of rotor deflection, speed and phase shift.

Appropriate graphs were plotted. Curves were plotted of the rotor deflection at the critical speed as a function of the unbalanced centrifugal force applied to the bearings. These graphs are straight lines but they do not pass through the origin as might have been expected, because the shaft whips a little, even when the unbalanced centrifugal force is zero. The angle of slope of these lines characterizes the maximum amplitude occurring at critical speeds. The necessary values of the various resistance coefficients were determined. The experimental results are in good agreement with values calculated by

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Chernavskiy's theoretical formula. The bearing resistance coefficient is also very similar to that obtained by Hagg and Sankey (Journal of Applied Mechanics, 1956, No.2). The results showed that changes in the oil viscosity have little influence on the damping properties of the bearings. Plain bearings with an oval bore have less damping effect than those with cylindrical bore. Calculations by the method, and tests on turbines under normal conditions of operation, have shown that with an unbalanced centrifugal force of 0.75 to 1% of the rotor weight, which is permissible for rotors of ship's turbines, the amplitude of transverse oscillation at resonance may be reduced to a value which is quite permissible from the standpoint of gaps at glands and the strength of the shaft. Indeed, because of the small deflections at the critical speed, it is possible to reduce clearances in the glands and to improve the reliability of turbines with flexible rotors. Hence, there is the possibility of using flexible rotors as well as rigid in turbines working at Card 5/6

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the First Critical Speed

variable speed, in particular for ship propulsion. There are  
5 figures, 1 table and 9 references: 8 Soviet and 1 non-Soviet.

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LAPPA, M.I., kand.tekhn.nauk

Experimental investigation of main marine turbine operations with  
flexible rotors in the critical speed range. Sud.sil.ust.  
no.1:25-33 '61. (MIRA 15:7)

1. Kafedra parosilovykh ustavov Odesskogo instituta inzhenerov  
morskogo flota.  
(Marine turbines--Testing)

34256

S/114/62/000/002/004/004  
E194/E955

26.2120

AUTHOR: Lappa, M.I., Candidate of Technical Sciences, Docent

TITLE: Determination under operating conditions of the deflection of a turbine rotor at the first critical speed

PERIODICAL: Energomashinostroyeniye, no.2, 1962, 43-45

TEXT: The object of this investigation was to determine experimentally the deflection of the rotors of several turbines at the first critical speed and to compare the results with values calculated by the procedure given by the author in a previous paper (Ref.1: Energomashinostroyeniye, no.7, 1960). Deflection of the turbine rotors was measured with inductive pick-ups. The phase of the oscillations and the speed were obtained by comparing inductive pick-up readings with a 500 c/s time scale. Tests were made on three turbines, one of 19 000, one of 6000 and one of 25 000 kW. It was found that since the elasticity of the bearing pedestal was different in different directions the critical speeds in the vertical and horizontal directions are slightly different and, therefore, the trajectory of the shaft centre at resonance is a

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Card 1/2

LAPPA, M.I., kand.tekhn.nauk, dotsent

Determining the deflection of the turbine rotor during the first critical revolution number under operating conditions.

Energomashinostroenie 8 no.2:43-45 F '62. (MIRA 15:2)  
(Impellers-Testing)

L 29544-66 EWT(d)/EWT(m)/EWP(w)/EWP(f)/T IJP(c) WW/EM/DJ  
ACC NR: AP6012271 SOURCE CODE: UR/0114/65/000/011/0028/0032

AUTHOR: Lappa, M. I. (Candidate of technical sciences, Docent); Gusak, Ya. M. (Engineer); Shoykhet, A. I. (Engineer)

ORG: none

TITLE: Vibrations of high-speed gas turbine installations

SOURCE: Energomashinostroyeniye, no. 11, 1965, 28-32

TOPIC TAGS: turbine rotor, gas turbine, vibration measurement, electronic simulation

ABSTRACT: Tests were made under simulated and natural conditions to determine the effect of an oil film and support rigidity on the critical rotor speeds of the GT-6-750 gas turbine installation made by the Ural Turbine Engine Plant. The research was done by the Ural Plant in conjunction with the Odessa Naval Engineering Institute. It is shown that an oil film has a considerable effect on the theoretical critical velocities of the system which consists of the split shaft and massive elastic supports in the GT-6-750 installation. The use of a common middle support for both rotors has practically no effect on the critical velocities, which are ~4250 rpm (for a 2-support rotor in the high-pressure turbine) and ~5200 rpm (for a 2-support rotor in the low-pressure turbine). The amplitudes of the rotor vibrations in the resonance regions are within permissible limits due to the effective dumping properties of the bearing in

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UDC: 621.438 : 62-253.001.5

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ACC NR: AP6012271

the GT-6-750 installation. The results of the research indicate that analog computers give sufficient accuracy for practical purposes in calculating the critical velocities of high-speed rotors. It is absolutely necessary in these calculations to consider the elastic and damping properties of the oil film on the slide bearing as well as the elasticity and mass of the supports. The method used by the Odessa Institute of Naval Engineers to stimulate these factors electronically for rotors in the GT-6-750 installation gave results which agree satisfactorily with experimental critical velocities. The use of gages for measuring vibration<sup>16</sup> of the rotor with respect to the stator (supports) in studying the vibration stability of rotors in the GT-6-750 installation gave a more complete picture of the vibration and one closer to reality than measurement of bearing vibration, which is the generally used method. The use of these gages is recommended for all high-speed rotors under both experimental and operational conditions. Orig. art. has: 5 figures, 1 formula.

SUB CODE: 21,13/ ORIG REF: 006

Card 2/2 JV

ACC NR: AR6031844

SOURCE CODE: UR/0285/66/000/006/0007/0007

AUTHOR: Lappa, M. I.

TITLE: Selection of the critical speed for rotors of main ship turbines

SOURCE: Ref. zh. Turbostroyeniye, Abs. 6. 49. 29

REF SOURCE: Sudostroitel'naya i morskaya sovetskaya resp. mezhved. nauchno-tehnicheskaya sb., vyp. 1, 1965, 79-85

TOPIC TAGS: turbine rotor, turbine stator, shipbuilding engineering, marine engineering, rotor vibration

ABSTRACT: It is pointed out that the presently existing definition of rotor type by critical speed on absolutely rigid supports  $\omega_c$  is inadmissible for modern ship turbines, since the actual critical speed can be 30 to 50 percent below  $\omega_c$ . The rotor type is determined, proceeding from the oscillations of the rotor oil film, and stator system. A calculation method is presented, making it possible to determine, using nomographic charts with sufficient accuracy, the change in critical speed resulting from the influence of the oil film and the supports and to select  $\omega_c$  for a rigid and flexible rotor, taking the influence of these factors into

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UDC: 621.165.001.5

ACC NR: AR6031844

consideration. A nomograph has been made to determine the magnitude of the rotor vibration at critical speeds. In the majority of present-day main ship turbines, it is structurally impossible to obtain a rigid rotor. In high-speed turbines, even if the nonequilibrium exceeds by several times the admissible degree, the rotor vibration at critical speed is small. It permits the use of flexible rotors in main ship turbines, as well as the development of more effective turbine designs.  
[Translation of abstract]

SUB CODE: 14/

Card 2/2

LAPPA, N.V., aspirantka

Forecasting the propagation of the brown-tail moth. Zashch.  
rast. et vred. i bol. 6 no.10:46 0 '61. (MIRA V6:6)

1. Ukrainskiy institut zashchity rasteniy.  
(Ukraine—Brown-tail moth)

LAPPA, N.V.

Susceptibility of brown-tail moth larvae to the infection by  
Bacillus cereus var. Galleriae. Zool. zhur. 42 no.7:1064-  
1070 '63. (MIRA 17:2)

1. Ukrainian Research Institute of Plant Protection, Kiyev.

LAPIA, R. ; SCHUBERT, R.

Analyzing the feedback between the anode and the grid in two-grid thyratrons.

P. 158, (Strojnoelektrotechnicky Casopis) Vol. 8, no. 3, 1957, Praha, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) Vol. 6, No. 11 November 1957

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Lappa R. Technology of Manufacturing Barium Ferrite.  
"Technologia otrzymywania ferrytu barowego". (Prace Inst. Tele-

1 Radiot. No. 1), Warszawa, 1958, ITR, 28 pp., 21 figs., 4 tabs.

Magnetic properties of barium ferrite are briefly reviewed and then a report is made on the Institute's research work on technology of obtaining barium ferrite. Successive stages of the technological process are discussed: 1) initial raw materials used, method of mixing them and grinding, and composition of mixtures; 2) preliminary sintering of the mixture with special emphasis on presumptive kinetics of the process; 3) subsequent grinding of the presintered product; 4) pressing and final sintering of shaped pieces of barium ferrite. Results of measurements of magnetic properties of the product are given and investigation of its microstructure described. Separate stages of the process are discussed from the point of view of achieving the best magnetic performance of barium ferrite while keeping the technological process within reasonable limits of economy of time and means. Isotropic barium ferrite obtained in the process described shows the following properties: remanent induction  $B_r = 2100$  Gs, coercive force  $H_c = 1600$  Oe and  $(BH)_{max} \approx 1.100$  Gs'Oe.

POLAND/Solid State Physics - Crystallization.

Abs Jour : Ref Zhur - Fizika, No 6, 1959, 13061

Author : Lappa, Ryszard

Inst :

Title : Work on Producing Single Crystals of Ferrites.

Orig Pub : Przegl. telekomun., 1958, 31, No 8-9, 229-230.

Abstract : No abstract.

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EWT(1)/BDS/EED-2 AFFTC/ASD

S/081/63/000/005/044/075

53

AUTHOR: Lappa, R.

TITLE: The effect of small additions of cobalt on the magnetic and magnetostriictive properties of nickel ferrite

PERIODICAL: Referativnyy zhurnal, Khimiya, no. 5, 1963, 393, abstract 5M23  
(Prace Inst. Tele. i radiotekhn., 1961, Vol. 5, no. 4, 3 - 18)TEXT: The influence of small additions of cobalt oxide on magnetic and magnetostriictive properties of nickel ferrite was investigated. It was found possible to produce nickel ferrite with addition of 0.5 mol % of CoO with an initial permeability stable to  $\pm 250 \cdot 10^{-6}$  per degree, and also with stability of resonance oscillations by addition of cobalt 0.2 % mol of the order of  $2 \cdot 10^{-6}$  per degree. The characteristics for various types of ferrites were given with simultaneous presentation of the possibility of obtaining the effect of compensation for ferrites with various characteristics of permanent anisotropy. Comparisons are made of the experimentally obtained effects, the temperature conditions of permeability, the coefficient of electromechanical coupling and the resonance frequency. The experiments were conducted from - 50 to +800° C.

S. Gorkina.

[Instructor's note: Complete translation]

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LAPPA, Ryszard

Preliminary studies on electromechanical filters. Prace Inst  
teletechn 4 no.1:87-89 '60.

LAPPA, Ryszard, mgr

Application of barium ferrite magnets to magnetogenerators. Prace  
Inst teletechn 4 no.2:98-103 '60.

LAPPA, Ryszard, mgr

Influence of small admixture of cobalt oxide on the magnetic and  
magnetostrictive properties of nickel ferrite. Prace Inst  
teletechn 5 no.4:3-18 '61.

S/196/62/000/017/002/005  
E194/E155

94.2200

AUTHOR:

Lappa, Ryszard

TITLE:

Influence of small additions of cobalt on the magnetic and magnetostriction properties of nickel ferrite

PERIODICAL: Referativnyy zhurnal, Elektrotehnika i energetika, no. 17, 1962, 3, abstract 17 B 24. (Prace Inst. Tele-i radiotechn., v. 5, no. 4, 1961, 3-18). (Polish: summaries in English, Russian, French and German).

TEXT: The influence of small additions of CoO on the magnetic and magnetostriction properties of Ni-ferrite is considered. A model of the formation of magnetic-crystalline anisotropy is presented and the cause of its temperature dependence is shown. Characteristics are given of various types of ferrites and the possibility is also shown of compensating anisotropy at a given temperature by combining two ferrites with constant anisotropy of opposite sign. The observed experimental effects are discussed and an explanation is offered for the observed temperature-dependence of the initial permeability, the coefficient of electro-mechanical bonding and the resonance frequency of

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